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ABSTRACT

This report presents national trend data on the supply and turnover of public school teachers in K-12 special and general education. Data were derived from three large national probability samples of teachers taken over a six-year period from 1987 to 1994. A summary of the results is in two sections. The first section, on trends in teacher supply, covers established teachers, the demand for entering teachers, the trends in entering teachers and entering first-time teachers, and the trends in re-entering experienced teachers. The second section presents data on trends in teacher turnover including exit attrition from the teaching force, switching between special and general education teaching, retention of teachers in the same school, reassignment of teachers to different schools within the same district, and trends in the migration of teachers to schools outside their home district. The four tables present detailed data on: (1) the trends in the percentages of teachers by four supply sources for three school years; (2) the trends in the percentages of entering teachers by four sources of supply for three school years; (3) the trends in field switching and attrition of teachers in special and regular education (trends over three school years); and (4) the trends in school transfer of teachers in special and general education (trends over three school years). Two appendices include an explanation of data analysis methods and a glossary. (DB)

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NATIONAL TRENDS IN TEACHER SUPPLY AND TURNOVER FOR SPECIAL AND GENERAL EDUCATION[1]

ED 426 549

Data Analysis Report No. 1998-DAR1

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DATA ANALYSIS REPORTS

Data Analysis Reports are a means of rapid dissemination of the results of data analyses in tabular and graphical form with minimal description and discussion. These results may later be used as the basis for fully-developed research reports, policy briefs, journal articles, and/or other modes of dissemination.

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INTRODUCTION[1]

This report presents national trend data on the supply and turnover of public school teachers in special and general education at the K through 12 grade levels. In contrast with other reports on the supply (Rollefson & Broughman, 1996) and turnover (Whitener, Gruber, Lynch, Tingos, Perona, & Fondelier, 1997) of all public and all private school teachers, this report provides national supply and turnover data specifically for all special education teachers in contrast with all general education teachers in public schools. The data were derived from three large national probability samples of teachers taken over a six-year period for school years 1987-88, 1990-91, and 1993-94. Thus, the trend data reported are based on the numbers of nationally estimated special and general education teachers in public schools. The data sources were the Public School Teacher Questionnaires and the Teacher Followup Surveys of the Schools and Staffing Surveys (SASSs) of the National Center for Education Statistics (NCES), U.S. Department of Education. These sources, the teacher samples, and the data analysis procedures used are described more fully in Appendix A (Data Analysis Methods).

The descriptive data reported in the tables presented here reveal major trends (i.e., changes over time) in the career paths of public school teachers. Transitions in teacher career paths include: entering public school teaching, reentering public school teaching by experienced teachers after a break in service, continuing in public school teaching from one year to the next, switching main teaching field, moving from one school to another school, and leaving teaching. As a descriptive report on such transitions in the career paths of special and general education teachers, additional data are <u>not</u> presented here on how these career transitions vary as a function of "predictor variables" such as the characteristics and qualifications of teachers, teacher working conditions, and a host of other factors. Some data of this type for both special and general education teachers have been published by Boe, Bobbitt, Cook, Whitener, and Weber (1996, 1997), and Cook and Boe (1995). Subsequent "Data Analysis Reports" issued by the Center for Research and Evaluation in Social Policy, Graduate School of Education, University of Pennsylvania, will contain extensive data on such predictor variables and their relationships with major career path transitions of teachers.

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[1]See Appendix B (Glossary if Terms) for definitions used in this report.

The teacher supply data for Tables 1 and 2 are based on the Public School Teacher Questionnaires of SASS. In this questionnaire, employed teachers during a particular school year were asked about their main status during the prior year such as whether they were attending school, working in a non-teaching job, or employed as teachers in a public school. From teacher answers to questions of this type, it is possible to determine which teachers had just entered the ranks of employed teachers from non-teaching activities during the prior year, and which teachers had continued as employed teachers from the prior year. Data on these, and related, aspects of teacher supply are presented in Tables 1 and 2.

The teacher turnover data for Tables 3 and 4 are based on the Teacher Followup Survey of SASS. Teacher turnover is used as a generic term for any major change in an employed teacher's career path from one year to the next. In the Teacher Followup Survey, subsamples of teachers responding to the Public School Teacher Questionnaire of SASS in one school year were followed up during the next school year. These samples include public school teachers who (a) continued teaching in the same school (often referred to as "Stayers"), (b) transferred to moved to a different school (often referred to as "Movers"), and (c) left the ranks of employed teachers (often referred to as "Leavers", who represent exit attrition). In addition, it is possible from the Teacher Followup Survey data to identify employed teachers who changed their main teaching field from one year to the next (often referred to as "Switchers"). Data on these, and related, aspects of teacher turnover are presented in Tables 3 and 4.

SUMMARY RESULTS[1]

Trends in Teacher Supply

1. Trends in Established Teachers (Table 1): The percentage of special education teachers who became established in their positions increased gradually from 62% in 1988 to 70% in 1994, but did not reach the level of established general education teachers that remained steady at about 76% during the same period of time. Even so, the level of transitional teachers by 1994 in special education (23%) and general education (17%) was still remarkably high, a cause for concern since the percentage of transitional teachers who are not fully certified in their main teaching assignment is three times higher than in established teachers (Boe, Cook, Bobbitt, & Terhanian, 1998).

2. Demand for Entering Teachers (Table 1): The percentage of entering teachers in special education has been stable at about the 8% level annually during the six year period from 1988 to 1994, while the percentage of entering teachers in general education has been somewhat less at about the 6% level. Thus, in percentage terms, the demand for entering teachers in special education annually is about one-third greater than in general education--a fact that indicates a greater demand (proportionally) for qualified entering teachers in special education than in general education.

3. Trends in Entering Teachers (Table 1): The percentage of first-time entering teachers in both special education and general education increased fairly sharply during the six year period from 1988 to 1994. The percentages of such teachers and their percentage growth during this period was comparable in special and general education. By contrast, there was a corresponding sharp decline in both special and general education in the percentage of experienced teachers who entered teaching employment in public schools, though special education has been somewhat more dependent upon entering experienced teachers to fill open teaching positions than has general education. The two trends of increasing first time entering teachers along with decreasing entering experienced teachers suggests that the reserve pool as a source of supply of entering teachers is being depleted of its stock of experienced teachers who are available to become reemployed as teachers.

4. Trends in Entering First-Time Teachers (Table 2): The increase in the numbers and percentages of first-time entering teachers in both special and general education during the six year period from 1988 to 1994 is accounted for by the rapidly increasing hiring of delayed entrants instead of by recent graduates. By 1994, delayed entrants were hired much more frequently than recent graduates in both special and general education. This increasing dependence upon the hiring of delayed entrants to fill open teaching positions suggests that the supply of recent degree graduates and of experienced teachers available to enter teaching was insufficient to meet the demand for new teacher hires in public schools. These trends do not bode well for increasing the qualifications of the teaching force because recent research with 1990 SASS data has shown that only 32% of delayed entrants were fully certified in their main teaching assignments in special education, while only 72% of delayed entrants were fully certified in their main teaching assignment in general education. The comparable percentages of fully certified entering first-time and entering experienced teachers was much higher (Boe et al., 1998).

5. Trends in Reentering Experienced Teachers (Table 2): The decrease in the numbers and percentages of experienced teachers entering employment in public schools in both special and general education during the six year period from 1988 to 1994 is accounted for by the rapidly decreasing hiring of reentering experienced teachers (former teachers who were not employed as teachers during the prior year) instead of by a change in the hiring of private school migrant teachers into public schools. By 1994, reentering experienced teachers had declined to about 33% of all entering teachers in both special and general education, whereas in 1988 they had accounted for well over 50% of all entering teachers. By contrast, the hiring of private school migrant teachers into public schools has been stable at a modest percentage level of all entering teachers during the six year period studied in both special education (about 8%) and general education (about 6%).

6. Summary of Trends in Teacher Supply (Tables 1 and 2): There have been a number of important trends in the sources of supply of teachers for public schools that are comparable in special and general education during a six year period from 1988 to 1994. Among these trends are a stable level of entering first-time teachers (see Section 4 above), sharp increases in the percentages of delayed entrants (see Section 4 above), sharp declines in the percentages of reentering experienced teachers (see Section 4 above), and a stable level of teachers entering public schools who migrated from private

school teaching (see Section 5 above). However, there have been two important differences between special education and general education in their sources of supply of teachers. First, the supply of established continuing teachers increased during the six year period for special education, though not to the level attained by general education (see Section 1 above). Second, the demand for entering teachers in special education has been stable at about the 8% level annually, while the demand for entering teachers in general education has been stable at the lower 6% level (see Section 2 above). Though the demand for entering teachers in special education has remained relatively high, there has been deterioration in its sources of supply as indicated by the sharp decline in the reentering of experienced teachers and the sharp increase in delayed entrants.

Trends in Teacher Turnover

7. Exit Attrition from the Teaching Force (Table 3): The percentages of special education teachers and general education teachers in public schools who have left the ranks of employed teachers has been comparable and stable at about the 6% level annually during the six year period from 1988 to 1994.

8. Switching between Special and General Education Teaching (Table 3): The percentage of special education teachers in public schools who have switched to teaching assignments in general education has been stable at about the 7.4% level annually during the six year period from 1988 to 1994, while the percentage of general education teachers in public schools who have switched to teaching assignments in special education has been stable at a much lower percentage level annually (about 0.7%) during the same period of time. No statistically significant trends over time in the switching percentage for either special or general education teachers were observed. However, the practical significance of the large difference in the percentages of teachers switching between special and general education should be interpreted in light of the actual numbers of teachers making such switches. During the three separate years of the six year period studied, a total of about 60,000 special education teachers switched to general education, while a total of about 44,000 general education teachers switched to special education (a difference that was not statistically significant). Thus, the data currently available suggest that the nationally estimated number of teachers switching from special to general education is offset by an equivalent number of teachers switching from general to special education.

9. Trends in the Retention of Teachers in the Same School (Table 4): The percentage of special education teachers who stayed in the same school from one year to the next increased gradually from 86% in 1988 to 92% in 1994. Thus, by 1994, the percentage of special education teachers retained in the same school had reached the level of retained general education teachers that remained steady at about 92% during the same period of time. This trend of increasing school retention of special education teachers contributes to the increasing percentage over time of continuing special education teachers who have become established in their specific teaching positions as noted in Section 1 above.

10. Reassignment of Teachers to Different Schools within the Same Public School District (Table 4): The percentage of special education teachers who have been reassigned to a different school within the same public school district from one year to the next has been stable at about the 6.1% level annually during the six year period from 1988 to 1994, while the percentage of general education teachers being similarly reassigned has been somewhat less at about the 4.4% level. Though the finding of a stable percentage of school reassignment does not help explain the increasing degree of school retention of special education teachers discussed in Section 9 above, the difference between special and general education teachers in this respect does partially account for the lower percentage of established special education teachers than general education teachers discussed in Section 1 above.

11. Trends in the Migration of Teachers to Schools Outside their Home Districts (Table 4): The percentage of special education teachers in public schools who migrated to both public and private schools outside their home district from one year to the next decreased gradually from about 7.9% in 1988 to 2.7% in 1994. This trend toward decreasing migration of special education teachers was observed for migration to both in-state and out-of-state schools. Thus, by 1994, the percentage of migrating special education teachers had declined to the level of migrating general education teachers that remained steady at about 3.1% during the same period of time. This trend of decreasing school migration of special education teachers contributed substantially to the increasing percentage over time of continuing special education teachers who became established in their specific teaching positions as noted in Section 1 above. It is also the case that the increasing school retention of special education teachers is explained by decreasing out-of-district migration instead of by any change in within district reassignment.

12. Summary of Trends in Teacher Turnover (Tables 3 and 4): Of the three components of teacher career paths that define turnover, the exit attrition of special education teachers and their switching to general education remained at a stable level during the six year period from 1988 to 1994 (see Sections 7 and 8 above), while a sharp decline in school transfer was observed during the period studied (and then only for school migration instead of for school reassignment, as reported in Sections 10 and 11 above). Thus, except for school migration, there has been little change in the rate at which special education teachers have made annual career path transitions. Transitions in the career paths of special education teachers has been quite similar to that of general education teachers, except that no trends of any type have been observed in the career path transitions of general education teachers during the six year period studied (see Sections 7 and 11 above). With respect to career path transitions, therefore, special education teachers are very similar to general education teachers.

Table 1

Sources of Supply of Total Public School Teachers in Special Education and General Education: National Trends in the Percentages of Teachers by Four Supply Sources for Three School Years

Supply Source	Statistic[a]	Main Teaching Field: Special Education by School Year* 1987-88	1990-91	1993-94	Total	General Education by School Year* 1987-88	1990-91	1993-94	Total
Continuing Teachers									
A. Established	Col %	62.3%	64.1%	69.7%	65.5%	74.7%	76.3%	76.8%	76.0%
	SE %	0.8%	1.1%	1.0%	0.6%	0.3%	0.3%	0.4%	0.2%
B. Transitional	Col %	29.1%	27.1%	23.0%	26.3%	19.1%	17.8%	17.0%	18.0%
	SE %	0.8%	0.9%	0.9%	0.6%	0.3%	0.3%	0.4%	0.2%
Subtotal: Continuing	Col %	91.5%	91.2%	92.8%	91.8%	93.8%	94.1%	93.8%	93.9%
	SE %	0.5%	0.7%	0.5%	0.3%	0.1%	0.2%	0.2%	0.1%
Entering Teachers									
A. First Time Teachers	Col %	2.7%	3.6%	4.2%	3.5%	2.4%	3.4%	3.9%	3.3%
	SE %	0.3%	0.4%	0.5%	0.2%	0.1%	0.2%	0.1%	0.1%
B. Experienced Teachers	Col %	5.8%	5.2%	3.1%	4.7%	3.8%	2.6%	2.3%	2.9%
	SE %	0.4%	0.6%	0.4%	0.3%	0.1%	0.1%	0.1%	0.1%
Subtotal: Entering	Col %	8.5%	8.8%	7.2%	8.2%	6.2%	5.9%	6.2%	6.1%
	SE %	0.5%	0.7%	0.5%	0.3%	0.1%	0.2%	0.2%	0.1%
Total Teachers	Col %	100%	100%	100%	100%	100%	100%	100%	100%
	Nat. Est.	239,786	273,956	270,101	783,843	2,079,348	2,277,035	2,282,020	6,638,403
	SE Est.	3,847	6,516	5,228	9,398	11,941	20,276	19,556	32,665
	Sample (N)	4,307	5,054	5,288	14,649	36,215	41,545	41,706	119,466

Note. Data from the 1987-88, 1990-91, and 1993-94 Schools and Staffing Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted percentages (Col %) of the total numbers of full-time and part-time teachers combined at the elementary and secondary levels. SE % = standard error of the column percentages; Nat. Est. = nationally weighted estimates of the numbers of total teachers; SE Est. = standard error of the national estimates.

*The supply source by school year for special education (4 x 3) χ^2 was 54.37 ($p < .001$). The supply source by school year for general education (4 x 3) χ^2 was 161.98 ($p < .001$).

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Table 2

Sources of Supply of Entering Public School Teachers in Special Education and General Education: National Trends in the Percentages of Teachers by Four Sources of Entering Supply for Three School Years

		Main Teaching Field							
		Special Education by School Year*				General Education by School Year*			
Supply Source: Entering Teachers	Statistic[a]	1987-88	1990-91	1993-94	Total	1987-88	1990-91	1993-94	Total
First Time Teachers									
A. Recent Graduates	Col %	22.4%	23.1%	22.3%	22.6%	17.1%	25.0%	26.1%	22.8%
	SE %	2.3%	3.0%	3.1%	1.5%	0.9%	1.2%	1.0%	0.6%
B. Delayed Entrants	Col %	9.3%	17.9%	35.0%	20.4%	22.1%	32.0%	36.5%	30.4%
	SE %	1.9%	3.4%	4.4%	1.9%	1.0%	1.7%	1.3%	0.7%
Subtotal: First-Time Teachers	Col %	31.6%	41.1%	57.3%	43.0%	39.2%	57.0%	62.5%	53.2%
	SE %	2.6%	3.7%	4.3%	2.1%	1.2%	1.6%	1.3%	0.7%
Experienced Teachers									
A. Reentering	Col %	60.1%	52.1%	33.3%	48.9%	53.7%	36.5%	31.9%	40.4%
	SE %	2.4%	4.7%	4.1%	2.4%	1.3%	1.7%	1.2%	0.8%
B. Private School Migrants	Col %	8.3%	6.9%	9.4%	8.1%	7.1%	6.6%	5.6%	6.4%
	SE %	1.5%	2.3%	2.1%	1.0%	0.9%	1.0%	0.6%	0.5%
Subtotal: Experienced Teachers	Col %	68.4%	58.9%	42.8%	57.0%	60.8%	43.1%	37.5%	46.8%
	SE %	2.6%	3.7%	4.3%	2.1%	1.2%	1.6%	1.3%	0.7%
Total Entering Teachers	Col %	100%	100%	100%	100%	100%	100%	100%	100%
	Nat. Est.	20,444	24,163	19,566	64,173	129,095	134,824	141,073	404,992
	SE Est.	1,207	2,110	1,486	2,653	3,039	4,559	3,973	6,623
	Sample (N)	384	430	408	1,222	2,274	2,696	2,777	7,747

Note. Data from the 1987-88, 1990-91, and 1993-94 Schools and Staffing Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted percentages (Col %) of the total numbers of full-time and part-time teachers combined at the elementary and secondary levels. SE % = standard error of the column percentages; Nat. Est. = nationally weighted estimates of the numbers of total teachers; SE Est. = standard error of the national estimates.

* The supply source by school year for special education (4 x 3) χ^2 was 37.87 ($p < .001$). The supply source by school year for general education (4 x 3) χ^2 was 129.48 ($p < .001$).

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Table 3

Teaching Field Switching and Attrition of Teachers in Special Education and General Education: National Trends in the numbers of Teachers for Three School Years

		Main Teaching Field							
		Special Education by School Year				General Education by School Year			
Teaching Status in the Subsequent Year	Statistic[a]	1987-88	1990-91	1993-94	Total*	1987-88	1990-91	1993-94	Total*
Remain in the Same Teaching Field	Nat. Est.	207,646	257,541	233,194	698,381	2,010,956	2,126,815	2,091,257	6,229,028
	Col %	84.7%	89.6%	84.8%	86.5%	94.2%	94.3%	92.4%	93.6%
	SE %	1.7%	1.3%	1.8%	0.8%	0.4%	0.4%	0.4%	0.2%
	Sample (N)	402	383	311	1,096	2,744	2,811	2,376	7,931
Switch to other Teaching Field	Nat. Est.	19,800	15,913	24,310	60,022	9,790	11,311	23,274	44,375
	Col %	8.1%	5.5%	8.8%	7.4%	0.5%	0.5%	1.0%	0.7%
	SE %	2.0%	1.1%	1.7%	0.9%	0.2%	0.2%	0.2%	0.1%
	Sample (N)	61	56	51	168	41	34	41	116
Exit Attrition from the Teaching Force	Nat. Est.	17,846	14,109	17,370	49,325	114,985	116,174	149,437	380,596
	Col %	7.3%	4.9%	6.3%	6.1%	5.4%	5.2%	6.6%	5.7%
	SE %	1.2%	0.9%	1.1%	0.6%	0.3%	0.4%	0.4%	0.2%
	Sample (N)	176	145	156	477	1,374	1,311	1,568	4,253
Total Teacher	Nat. Est.	245,292	287,563	274,873	807,728	2,135,731	2,254,300	2,263,968	6,653,998
	SE Est.	18,789	16,962	18,168	31,862	51,387	47,010	28,653	63,442
	Col %	100%	100%	100%	100%	100%	100%	100%	100%
	Sample (N)	639	584	518	1,741	4,159	4,156	3,985	12,300

Note. Data from the 1988-89, 1991-92, and 1994-95 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est. and Col %) of the total numbers of full-time and part-time teachers combined at the elementary and secondary levels. SE % = standard error of the column percentages; SE Est. = standard error of the national estimates.

* The teacher status by school year for special education (3 x 3) χ^2 was 5.05 (ns). The teacher status by school year for general education (3 x 3) χ^2 was 15.06 ($p < .01$)

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Table 4

School Transfer of Teachers in Special Education and in General Education: National Trends in the Percentages of Teachers for Three School Years

Teacher Status in the Subsequent Year	Statistic[a]	Main Teaching Field: Special Education by School Year* 1987-88	1990-91	1993-94	Total*	General Education by School Year* 1987-88	1990-91	1993-94	Total*
Same School District									
A. Stayed in the Same School	Col %	86.2%	89.1%	92.2%	89.3%	92.3%	92.8%	92.4%	92.5%
	SE %	1.5%	1.4%	0.9%	0.7%	0.5%	0.4%	0.4%	0.3%
B. Reassigned to Different School	Col %	5.9%	7.2%	5.1%	6.1%	4.6%	4.1%	4.6%	4.4%
	SE %	0.8%	1.2%	0.8%	0.5%	0.3%	0.3%	0.3%	0.2%
Subtotal: Retained in Same School District	Col %	92.1%	96.3%	97.3%	95.4%	96.9%	96.9%	97.0%	96.9%
	SE %	1.1%	1.1%	0.5%	0.5%	0.3%	0.3%	0.3%	0.2%
Different School District/Sector									
A. Migrated to School In Same State	Col %	5.6%	2.9%	2.4%	3.5%	2.4%	2.4%	2.6%	2.5%
	SE %	0.8%	1.1%	0.5%	0.4%	0.2%	0.3%	0.3%	0.2%
B. Migrated to School Out-of-State	Col %	2.3%	0.8%[b]	0.3%[b]	1.1%	0.7%	0.7%	0.4%	0.6%
	SE %	0.6%	0.3%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
Subtotal: Migrated to Different School District	Col %	7.9%	3.7%	2.7%	4.6%	3.1%	3.1%	3.0%	3.1%
	SE %	1.1%	1.1%	0.5%	0.5%	0.3%	0.3%	0.3%	0.2%
Total Continuing Teachers	Nat. Est.	227,445	273,454	257,503	758,403	2,020,745	2,138,126	2,114,530	6,273,402
	SE Est.	18,364	17,090	17,963	31,819	50,524	46,140	31,084	64,526
	Col %	100%	100%	100%	100%	100%	100%	100%	100%
	Sample (N)	463	439	362	1,264	2,785	2,845	2,417	8,047

Note. Data from the 1988-89, 1991-92, and 1994-95 Teacher Followup Surveys, National Center for Education Statistics, USDE.

[a]Nationally weighted percentages (Col %) of the total numbers of full-time and part-time teachers combined at the elementary and secondary levels. SE % = standard error of the column percentages; Nat. Est. = nationally weighted estimates of the numbers of total teachers; SE Est. = standard error of the national estimates.

[b]Sample size (n) less than 30.

* The supply source by school year for special education (4 x 3) χ^2 was 23.75 ($p < .001$). The supply source by school year for general education (4 x 3) χ^2 was 5.72 (ns).

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APPENDIX A: DATA ANALYSIS METHODS

Data Sources

One source of data was teachers' self reports to the Public School Teacher Questionnaires (PSTQ) of the 1987-88, 1990-91, and 1993-94 Schools and Staffing Surveys (SASS), conducted by the National Center for Education Statistics (NCES), U.S. Department of Education. Information from the PSTQs was used in these analyses to identify employed teachers who had entered teaching during the years of the surveys and others who had continued as employed teachers from the year prior to the survey. Such teachers were analyzed as a function of various sources of teacher supply.

The PSTQ data were obtained from two large national-probability samples of K - 12 public school teachers (N = 40,522 teachers in early 1988, N = 46,599 teachers in early 1991, and N = 46,944 in early 1994) with high weighted response rates (86% in 1988, 91% in 1991, and 88% in 1994). Therefore, this data base provides nationally representative estimates of the numbers of public school teachers in each of the three survey years, including sources of teacher supply (e.g., entering recent degree graduates, delayed entering degree graduates, reentering experienced teachers, continuing teachers, etc.) and whether their main teaching assignment was in special or general education. Furthermore, there are no missing data for completed PSTQs because NCES has imputed values for item nonresponse. More detailed information about the SASS is found in an overview published by NCES (1996), and in technical descriptions published by NCES (e.g., see Choy, Medrich, Henke, & Bobbitt, 1992, Appendix A for the 1987-88 SASS; Choy, Henke, Alt, Medrich, & Bobbitt, 1993, Appendix C, for the 1990-91 SASS; and Henke, Choy, Geis, & Broughman, 1996, Appendix C, for the 1993-94 SASS).

The second source of data was teachers' self reports to the Teacher Followup Survey (TFS) conducted in each of the years following SASS (i.e., 1988-89, 1991-92, and 1994-95), also conducted by NCES as a longitudinal component of SASS. Information from the TFSs was used in these analyses to identify turnover of employed teachers from one year (i.e., the SASS year) to the next year (i.e., the TFS year). Such teachers were analyzed as a function of three types of turnover (i.e., transferring or moving from one school to another, switching main teaching field, and leaving or exiting teaching).

The TFS data were obtained from three national-probability samples of K - 12 public school teachers (N = 3,248 teachers in early 1989, N = 3,284 teachers in early 1992, and

N = 2,779 in early 1995) with high weighted response rates (for continuing teachers, 98% in 1989, 97% in 1992, and 92% in 1995; for former teachers or exited teachers, 94% in 1989, 92% in 1992, and 89% in 1995). Therefore, this data base provides nationally representative estimates of the numbers of public school teachers in each of the three survey years, including the three types of turnover (i.e., for Movers, Switchers, and Leavers) and whether their main teaching assignment was in special or general education. Furthermore, there are no missing data for completed TFS questionnaires because NCES has imputed values for item nonresponse. More detailed information about the TFS is found in an overview published by NCES (1996), and in technical descriptions published by NCES (see Bobbitt, Faupel, & Burnes, 1991, pp. 23-29 for the 1988-89 TFS; Bobbitt, Leich, Whitener, & Lynch, 1994, pp. 19-, for the 1991-92 TFS; and Whitener, Gruber, Lynch, Tingos, Perona, & Fondelier, 1997, pp. 19-46, for the 1994-95 TFS).

Teacher Sample

In keeping with the SASS definition based on teacher self reports to PSTQs, a teacher was any individual employed either full-time or part-time at a public school who reported his/her main assignment as teaching in any grade(s) K - 12, including itinerant teachers and long-term substitutes. Excluded from this definition of a teacher were individuals who identified their main assignment as pre-kindergarten teacher, short-term substitute, student teacher, teacher aide, or a non-teaching specialist of any kind.

The sizes of the samples of teachers used in this research are presented in the several tables of results.

Procedures

Based on the sample sizes reported in the tables of results, weighted national estimates of the numbers of teachers (as well as their percentages and standard errors) were computed by special procedures developed by NCES for complex sample survey data (Kaufman & Huang, 1993) for the various sources of teacher supply shown in Tables 1 and 2, and the various types of teacher turnover shown in Tables 3 and 4. These national estimates were used in the statistical analyses testing for associations among variables. Because SASS and TFS data are subject to design effects due to stratification and clustering of the sample, standard errors for the national estimates were computed using the method of balanced repeated replications with the statistical software "WesVarPC".

APPENDIX B: GLOSSARY[2]

Attrition of Teachers

See Exit Attrition.

Continuing Teachers

Continuing teachers were defined as public school teachers who continued teaching in any school (public or private) from one year to the next.

Continuers

Continuing teachers are also called "Continuers."

Delayed Entrants

Delayed entrants were defined as entering teachers whose most recent degree had been conferred more than one year prior to entering teaching (i.e., first-time teachers and reentering experienced teachers who had earned a degree since last being employed as teachers). See also First-Time Teachers, First-Time Teachers: Delayed Entrants, and Reentering Experienced Teachers.

Entering Teachers

Entering teachers were defined as individuals who where not teaching in public schools during one year, and who were hired to teach in a public school during the following year. Entering teachers include both entering experienced teachers and first-time teachers.

Entering First-Time Teachers

Entering first-time teachers were defined as entering teachers who had no prior teaching experience in either public or private schools, other than possibly as teacher aides, student teachers, or short-term substitute teachers.

Entering Experienced Teachers

Entering experienced teachers were defined as entering teachers who had prior experience as regular, itinerant, or long-term substitute teachers in either public or private schools. Private school teachers migrating to public schools were also classified as entering experienced teachers.

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[2]Operational definitions of variables analyzed in this research are available upon request from the senior author.

Established vs. Transitional Teachers

Established teachers were defined as teachers who had remained in one of 54 specific main teaching assignments recognized by SASS for the most recent three or more years and who had been retained in the same school for the most recent three or more years. All other teachers were classified as transitional teachers. The current year was counted as one of the three years.

Exit Attrition

Exit attrition was defined as public school teachers (K through 12) in one year who did not continue as teachers in either public or private schools (K through 12) the following year. Since the focus is on public school teachers grades K through 12, such teachers who switched to pre-kindergarten the following year were included in exit attrition, as well as those who left the ranks of employed teachers entirely. If transfers to pre-K are not classified as exit attrition, slightly lower exit attrition percentages are obtained (Bobbitt, Leich, Whitener, & Lynch, 1994).

Experienced Teachers

Experienced teachers were defined as teachers who had at least one year of experience as a regular, itinerant, or long-term substitute teacher in a public or private school, either full-time or part-time.

First-Time Teachers

First-time teachers were defined as entering teachers who had no prior experience as employed teachers other than as teacher aides, student teachers, or short-term substitute teachers.

First-Time Teachers: Delayed Entrants

See First-time teachers and Delayed Entrants.

First-Time Teachers: Recent Graduates

See First-Time Teachers and Recent Graduates.

Full-Time vs. Part-Time Teachers

Full-time teachers were defined teachers who reported being employed full time as teachers in public schools. All public school teachers who reported being employed less than full time as teachers were defined as part-time teachers.

General Education Teachers

Teachers (K through 12) with any main teaching assignment recognized in the Public School Teacher Questionnaire of SASS other than 11 teaching assignments classified as Special Education.

Leavers

Teachers who leave the ranks of employed teachers (K through 12) from one year to the next are called Leavers. See Exit Attrition.

Main Teaching Assignment

The main teaching assignment of a teacher was defined as a teacher's selection of one of 54 subject matter assignment options provided by the Public School Teacher Questionnaire of SASS (excluding prekindergarten), 11 of which were defined as Special Education and the remaining 43 of which were classified in this study as General Education.

Main Teaching Field

All public school teachers (K through 12) were classified into two main teaching fields (special education or general education) based on their designation of their main teaching assignment in response to the Public School Teacher Questionnaire of SASS. The main teaching field of special education was defined as the designation of one of 11 main teaching assignments classified as Special Education in this Questionnaire; the main teaching field of general education was defined as the designation of all other main teaching assignments including vocational education.

Migrant Teachers

Migrant teachers were defined as public school teachers who (a) transferred or moved to a different public or private school teaching position from one year to the next, and (b) private school teachers who transferred or moved to a public school teaching position from one year to the next.

Movers

Continuing teachers who transfer as teachers from one school to a different school are called Movers. See School Transfer.

Part-Time Teachers

See Full-Time Teachers

Private School Migrant Teachers

Private school migrant teachers were defined as private school teachers in one year who transferred to a public school teaching position the following year.

Public School Migrant Teachers

Public school migrant teachers were defined as public school teachers in one year who transferred to a teaching position in a different public school or in a private school (either in- or out-of-state) the following year.

Reassignment of Teachers

Reassignment of teachers was defined as the transfer of public school teachers from one school to a teaching position to another school within the same school district from one year to the next. School transfer within a district could be either voluntary or involuntary.

Recent Graduates

Recent graduates were defined as teachers who earned a college or university degree at the bachelor's or higher level during the most recent one-year period. Recent graduates could be continuing teachers, entering experienced teachers, or entering first-time teachers.

Reentering Experienced Teachers

Reentering experienced teachers were defined as entering teachers in one year who (a) were not employed as teachers in either a public or private school during the prior year, and (b) had prior experience as regular, itinerant, or long-term substitute teachers in either public or private schools. See Experienced Teachers.

Remainers

Continuing teachers who remained in the same main teaching field from one year to the next are called Remainers. See Main Teaching Field and Teaching Field Remaining

School Migration of Teachers

See Migrant Teachers.

School Reassignment of Teachers

See Reassignment of Teachers.

School Retention of Teachers

School retention was defined as public school teachers in one year who continued as teachers in the same school the following year.

School Transfer of Teachers

School transfer was defined as public school teachers in one year who transferred to a teaching position in a different public or private school the following year, either in- or out-of-state. School transfer is the sum of school reassignment and school migration of teachers.

Sector

Sector refers to the dimension of public versus private schools. Public schools are in the public sector, while private schools are in the private sector.

Sources of Teacher Supply

Teachers employed in public schools in any particular year come from various sources of supply. Most will be continuing as employed teachers in public schools from the prior year (see Continuing Teachers). Others will not have been so employed the prior year, but will be entering teaching employment in public schools for that particular year (see Entering Teachers). Entering teachers come from various sources. Some may be first-time teachers (see First-Time Teachers). Of these, some may be recent degree graduates, while others may be delayed entrants (see Recent Graduates and Delayed Entrants). Other entering teachers may have had prior teaching experience (see Reentering Experienced Teachers and Private School Migrant Teachers).

Special Education Teachers

Teachers (K through 12) with a main teaching assignment in one of 11 areas classified as Special Education by the Public School Teacher Questionnaire of SASS.

Stayers

Continuing public school teachers who stay as teachers in the same school from one year to the next are called Stayers. See School Retention of Teachers

Supply of Teachers

See Sources of Teacher Supply.

Switchers

Continuing teachers who change from one main teaching field (special or general education) to the other main teaching field from one year to the next are called Switchers. See Main Teaching Field and Teaching Field Transfer.

Teacher

In keeping with the SASS definition, a teacher was any individual employed either full-time or part-time at a school who reported their main assignment as teaching in any grade(s) K - 12, including itinerant teachers and long-term substitutes. Excluded from this definition of a teacher were individuals who identified their main assignment as a pre-kindergarten teacher, short-term substitute, student teacher, teacher aide, and a non-teaching specialist of any kind.

Teacher Attrition

See Exit Attrition

Teaching Field Remaining

Teaching field remaining was defined as teachers who continued in the same main teaching field (either special or general education) from one year to the next.

Teacher Migration

See Migrant Teachers.

Teacher Retention

See School Retention of Teachers.

Teacher Supply

See Sources of Teacher Supply.

Teacher Transfer

Teacher transfer is a generic term defined as teachers who transfer from one school to another, or to a different main teaching field, or both, from one year to the next. See School Transfer of Teachers and Teaching Field Transfer.

Teacher Turnover

Teacher turnover is a generic term encompassing the following three major changes in a teacher's status from one year to the next: School Transfer of Teachers (Movers), Teaching Field Transfer (Switchers), and Exit Attrition (Leavers).

Teaching Field Transfer

See Teaching Field Switching.

Teaching Field Switching

Teaching field switching was defined as teachers who changed (either voluntarily or involuntarily) their main teaching field (special or general education) from one year to the next.

Transitional Teachers

See Established Teachers

Turnover of Teachers

See Teacher Turnover